Customer: Carbonite

Size: 1,001-5,000 employees

Region: Boston, MA

Industry: Software Product Company

Profile: The client is a market leader in offering software products that allows IT firms to dynamically move, protect, and recover workloads across any distance and combination of both physical and virtual server environments.

Services: QA and Testing

Business Need

While releasing several software products, one of Synoptek's (formerly Indusa) clients wanted to ensure that they were performing optimally. Carbonite reached out to Synoptek in order to receive strategic support across several different areas. Synoptek worked on various projects for Carbonite, including virtualization services for data replication, Windows-based software testing for data replication and failover software, software testing on Linux based storage software, the development, enhancement, and maintenance for Linux based software, and the use of application lifecycle management to increase the flexibility of the disaster recovery and backup software. These projects spanned over the course of six years and resulted in several different successful product launches for Carbonite.

Solution and Approach

The first project Synoptek completed involved virtualization services for data replication. Carbonite wanted Synoptek to verify the product's core functionality, which consisted of replication and failover of virtual machines in real time. Carbonite needed Synoptek to set up a test lab having both clustered and shared storage environments using virtualization. Synoptek created several test suites, including regression, smoke, and application tests. Synoptek leveraged the capabilities of automated virtual labs for creating and replicating complex virtual environments such as the implementation of Hyper-V based virtualization for testing the product, the use of

Agile Process Methodology, multilingual support, and time and resource cuts for system and regressive tests.

The second project Synoptek completed for Carbonite involved software testing for a data replication and failover software product. Carbonite wanted to create several different test suites, including a regression test suite, a smoke test suite, and an application test suite. Synoptek provided exploration tests of the product, as well as verifying any fixed issues, and carrying out regression testing. Synoptek gauged the performance of the product under several different environments in order to ensure optimal performance. Synoptek also used VBScript and PowerShell to maintain and optimize the automation test framework. Synoptek also defined and communicated SLAs for the delivery of detailed test plans, work estimates, and reports to Carbonite. Types of testing carried out included functional, GUI, regression, performance, automated, compatibility, and usability testing.

The third project Synoptek completed for Carbonite was software testing for a disaster recovery product. Synoptek created several different test suites for the product, including a regression test suite, a smoke test suite, and an application test suite. Synoptek also performed application co-existence tests and maintained and optimized the automation test framework based on a Ruby-onRails framework. Synoptek created a comprehensive testing environment matrix through server virtualization and used Hyper-V and VMWare tools to setup the

complete test lab. The different types of testing included functional, GUI, regression, performance, automated, compatibility, and usability testing.

The final project Synoptek completed for Carbonite was the development, enhancement, and maintenance of a Linux-based software product. Synoptek worked over a set of kernel modules (Client-Product [CP] Driver) for the Linux operating system, responsible for capturing file system events and placing them on a queue where they can be retrieved by user-mode applications (such as the CP daemon). Synoptek also provided product features development, enhancement, and maintenance of Carbonite's application products like mirror, failover, failback, restoration, and full server protection. Synoptek also provided comprehensive work on Carbonite's system file driver, including implementing the mount utility for Carbonite's file system driver; un-mounting synchronous and asynchronous Input/output (I/O) and mount options repeat time and no-repeat time in Carbonite's file system driver; providing a feature in Carbonite's file system driver for exporting the

Network File System share; and adding the splice system call support in Carbonite's file system driver. In addition to this, we provided support for multiple NIC's in failover and failback modules of Carbonite's product.

Business Results

By entering into a strategic partnership with Synoptek, the software product company was able to achieve numerous goals across multiple products while remaining on-schedule and underbudget. The company successfully released several products successfully after working with Synoptek, and their product launches were much smoother thanks to the rigorous testing Synoptek performed. By working with Synoptek, Carbonite was able to improve security, operational flexibility, and responsiveness for their customers. Additionally, due to Synoptek's strategic approach to testing and services, Carbonite was able to **reduce product release time by 26%**. Synoptek's proven methodology also **achieved a 36% cost savings.**

About Synoptek

Synoptek is a Global Systems Integrator and Managed IT Services Provider offering Comprehensive IT Management and Consultancy Services to organizations worldwide. Our focus is to provide maximum "business value" to our clients enabling them to grow their businesses, manage their risk/compliance, and increase their competitive position by delivering improved business results.